

## **TITLE**

Exercising apparatus

## **BACKGROUND**

5           It is known that devices such as swings are used for both exercise and enjoyment and it also known that swings can be used in various therapeutic applications such as to improve the function of and strengthen the muscle skeleton of humans.

## **PRIOR ART**

10           A device in the form of an orthopedic traction apparatus is disclosed in US Patent specification 4,531,514 (McDonald). The device comprises a trapeze or T bar which is suspended by a block and tackle apparatus from a frame. The trapeze bar is connected to a traction belt which is placed by the user about the hips or pelvic region of the body. The patient places his/her knees over the traction bar which is then raised by a  
15           hoist which is part of the apparatus.

          US patent specification 1,876,832 (Bancroft) discloses an apparatus which is primarily used for lifting an invalid for instance from one bed to another bed and which allows the person being lifted to adopt a sitting or reclining position. The apparatus  
20           employs an overhead track which supports a block and tackle to which slings are attached to which various bands are connected and which are utilised to support the patient.

          US patent specification 806,565 (Percy) discloses an exercising apparatus which  
25           has a number of hooks which can be secured to a ceiling. The hooks support pulley blocks and ropes are engaged in the sheaves of the pulleys with the ropes being joined to hanger rings which have means to support the upper portion of the human body to enable strengthening of the muscles.

30           US patent specification 3,593,708 (Steele) discloses an apparatus which is said to facilitate manipulation of the vertebral column of a patient. The apparatus includes a

movable carriage mounted on a support frame which has means to enable a portion of the human body above the pelvic region to be suspended to provide traction.

5 The devices described in the prior art documents referred to above are all specifically designed for a particular purpose and are not capable of being used in a variety of ways contemplated by the present invention, and in particular cannot be used as a means of relaxation.

### **OBJECT OF THE INVENTION**

10 It is therefore an object of this invention to provide a multi-purpose device for suspending a human body which is readily portable and which can be used as a swing, or as a seat type of support and which can be simply configured to provide the user with the opportunity of obtaining therapeutic benefits from the device.

### **15 SUMMARY OF THE INVENTION**

In one aspect the invention relates to a device for suspending a human body, the device comprising:

a rigid support bar,

20 a pair of flexible spaced apart suspension ropes each having a first end attached to the support bar and having a second end attached to a suspension means by which the support bar can be suspended above the floor or ground,

a pair of flexible spaced apart main hangers each having a first end attached to the support bar to depend from the support bar when the support bar is suspended above the floor or ground and having a second end attached to a back rest and to a seat, and

25 a pair of flexible spaced apart stirrup hangers each having a first extremity attached to the support bar to depend from the support bar when the support bar is suspended above the floor or ground and having a second extremity attached to a stirrup.

30 Preferably the second end of each main hanger is attached to a connecting ring and preferably the back rest is attached to the connecting ring by flexible back rest straps.

Preferably the seat has opposing ends with each end of the seat being supported by means of two flexible seat suspenders which extend between the seat and the main hangers, each seat suspender having a first end attached to the seat and a second end  
5 attached to the connecting ring.

Preferably the back rest comprises an elongate semi-flexible element having opposing ends, said back rest straps connecting the opposing ends of the back rest to the main hangers.  
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Preferably the seat suspenders are provided with means to individually adjust the length of each suspender.

Preferably the stirrup hangers are connected to each other adjacent the stirrups  
15 by means of a flexible tie.

Preferably the stirrup hangers are each adjustable in length.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

Preferred forms of the invention will now be described with the aid of the accompanying drawings in which:  
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Figure 1 is a view of the device in a suspended condition.

Figure 2 is a diagrammatic view of the device illustrating a person using the device to enable stretching of the muscles.  
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Figure 3 is a diagrammatic view of the device illustrating another use by a person to enable stretching of the body with the feet in the provided stirrups.  
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Figure 4 is a diagrammatic view illustrating another position whereby the weight of the person is supported primarily by the seat and back rest.

Figure 5 is a diagrammatic view illustrating a yet further position whereby the stirrups are not used and the seat and back rest are utilised to enable a person to lie in the device.

Figure 6 is a further diagrammatic view of the device illustrating a position whereby the stirrups are not used and the person is seated in the device utilising only the seat and back rest.

### **BEST MODE OF PERFORMING THE INVENTION**

As illustrated in the drawings, and particularly in Figure 1, the device has a suitable suspension means such as a hook or eye 1 to enable the device to be readily suspended from a solid object such as the ceiling of a room. One end of each of a pair of suspension ropes 2 is suitably attached to the hook and the other end of the ropes 2 are tied adjacent either end of a rigid support bar 3. The support bar as illustrated is sufficiently long that a person can be positioned between the main hangers 4 which as illustrated are each attached to either end of the support bar in a manner that in use, the main hangers will depend from the support bar. The depending end of each main hanger 4 is connected to a connecting ring 5, preferably by being looped through the connecting ring to enable a ready adjustment of the length of the main hangers to be made.

Back rest straps 6 connect the connecting ring 5 to a back rest 7 which is preferably formed from a semi flexible core which may be covered for instance by suitable upholstery. As illustrated the back rest is curved to enable the back rest to fit comfortably on the torso of the person using the device.

Seat suspenders 9 are also connected to the connecting rings 5 and to a seat 10 which will preferably have a non flexible core (not shown in the drawings) which is

suitable upholstered. As illustrated, the seat 10 is sufficiently wide to enable a person to sit comfortably on the seat. The seat suspenders 9 preferably include adjustment buckles 11 to enable the height of the seat to be adjusted in relation to the remainder of the device.

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Stirrup hangers 12 are connected at their first end to the support bar 3 and at their second end to stirrups 13. An adjustment buckle 14 is incorporated in the stirrup hangers 12 to enable the height of the stirrups 13 in relation to the remainder of the device to be varied.

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Preferably the stirrup hangers 12 are connected to each other adjacent the stirrups by a flexible tie 15 which as will be further described can be employed to assist in the various positions that can be adopted by the user of the device.

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Figure 2 illustrates one usage of the device whereby a person can sit on the seat 10 and place the feet in the stirrups 13. The person can then manoeuvre the back rest 7 into a comfortable position on the back and can lean backwards onto the back rest and at the same time extend the legs against the resistance which will be imparted by the stirrups. The person can either hold the main hangers 4, or the seat suspenders 9 or can merely allow the body to relax against the back rest or can undergo a wide variety of exercises.

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Figure 3 illustrates another position whereby the seat 10 and the back rest 7 are located in the small of the back and by bending the legs, the feet can be placed in the stirrups 13. In this position the legs can be flexed to enable the leg muscles and the back muscles to be exercised.

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Figure 4 illustrates yet another method of using the device whereby the body is supported mainly by the back rest 7 and the stirrups 13. The seat, as illustrated in this view, is allowed to hang free. The can allow the arms to swing free of the device as

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illustrated or the person can grasp either of both the main hangers 4 to enable other sets of exercises to be carried out, or to merely relax in the swing.

In Figure 5, yet another position is illustrated whereby the person's torso is suspended between the seat 10 and the back rest 7 which can be moved to provide either a comfortable resting position or can be moved to enable the person to exercise various body muscles. In this Figure, the person's arms are shown in a relaxed condition, but the person can hold onto the main hangers if required.

Figure 6 illustrates another form of use of the device in which the seat 10 is located under the thighs or near the pelvic region while the back rest 7 is located at a convenient point on the back of the person.

It is to be understood that a very wide variety of positions and configurations can be adopted by a person using the device and the positions illustrated are merely given as a representative sample only. The range of positions and exercises that are available and can be used will depend solely upon the requirements of the user and the type of exercise or relaxation that the person wishes to undergo.

The device as herein described can be used for stretching the body since it is possible to exercise without gravity and allow toning of the muscles to occur as well as improving the general flexibility of the body. It has also been found that in addition to the physical benefits provided by the device, the benefits can also be felt mentally.

A further advantage of the device lies in its portability. Because of the nature of the device and of its method of suspension, the device can be hung anywhere whether it be indoors or outdoors and all that is necessary is to have a solid overhead beam of the like, such as are commonly found in the ceilings of buildings and the device can be simply efficiently and safely supported by the hook or eye 1 being connected to the support.

The following advantages are just some of those provided by the device:

Relaxation for pain control

Soothing and uplifting qualities which will relax the body and the mind.

Improved body flexibility and muscle toning

5       Stretching and exercising of the muscles and the joints of the person

Pain relief which results from postural modification will enable a positive and optimistic mental state to be achieved.

10       The person can simply relax in the device which allows the body's natural rhythms to take over and for the person to be in a state of suspension and deep relaxation.

15       Having described preferred methods of putting the invention into effect, it will be apparent to those skilled in the art to which this invention relates, that modifications and amendments to various features and items can be effected and yet still come within the general concept of the invention. It is to be understood that all such modifications and amendments are intended to be included within the scope of the present invention.